

## Passenger Rail Service:

Passenger rail within Rhode Island is currently provided by the Massachusetts Bay Transportation Authority's (MBTA) Providence Line commuter rail service and Amtrak's intercity service. The commuter rail, which operates on the Northeast Corridor (NEC) along with Amtrak, connects Rhode Island to Boston with three stops in state: Providence, TF Green Airport (Warwick), and Wickford Junction (North Kingstown). An infill station in Pawtucket/Central Falls is currently under construction.

Amtrak owns the NEC in Rhode Island, and the Commonwealth of Massachusetts owns the corridor in MA. RIDOT holds passenger rail operating rights between Providence and Wickford Junction, while MBTA holds those rights from Providence to Boston.



Amtrak trains operate between Washington D.C. and Boston with Rhode Island stops in Westerly, South Kingstown, and Providence.

Each metro area, Providence and Boston, attracts its own transit market, although the market to Boston is far more robust than that of Providence. Due to the characteristics unique to each capital

city, service strategies may vary, although both will include strategies for reducing travel time and increasing frequency. The two services are best categorized as “RI-Boston” and “Intrastate RI.” Trips destined for Providence yet originating in Massachusetts would be grouped with RI-Boston service, as faster, frequent service will benefit both directions.

## RI-Boston Passenger Rail Service

The Providence Line provides 20 round trips per weekday and Amtrak provides 19 through a combination of Acela and Northeast Regional trains. Half of the MBTA’s inbound trips originate from Wickford Junction (WJ) with service to TF Green Airport (TFG), and 8 outbound trains from Boston continue to TFG and WJ. A typical MBTA trip between Providence and Boston is 70 minutes while and Amtrak Regional can be 45 minutes. These services, which are already very successful and heavily used, provide important transportation and economic links between Rhode Island and Boston. Improvements to those services could strengthen those links and benefits.

There are a variety of ways to improve service, which fall under the following categories:

- Faster service
- More frequent service
- Fare integration (cross-honored fares)

Efforts to improve passenger rail connectivity to Boston are consistent with recommendations from the report *RI Innovates: A Competitive Strategy for the Ocean State* which was commissioned by Governor Raimondo in 2016. Additionally, strategies for faster, more frequent service are consistent with the market demands identified within Transit Forward’s State of the System report. There is demand for more/better passenger rail service between TF Green Airport, Providence, and Boston.

## Ways to Make Service Faster

There are five primary ways to make service faster, which include:

- Level boarding
- All door boarding and alighting
- Use of Faster Equipment
- Express service
- Fare integration with Amtrak (cross-honor)

### Level Boarding

Level boarding, where platform heights are at the same level as train floors, allows passengers to board and alight without any steps, which significantly reduces dwell times. Passengers may board and alight via steps at stations with low level platforms or use “mini-high” platforms. All Rhode Island stations have high-level platforms, but the following MA stations on the Providence Line do not: South Attleboro, Attleboro, Mansfield, Sharon, Canton Junction, and Hyde Park. Dwell times are often longer at stations with low level platforms.

MBTA High Level Platforms



Source: RIDOT

MBTA Low Level Platforms



Source: MBTA

## All Door Boarding and Alighting

At present, passengers must board and alight through doors attended by conductors, which is a minority of the train doors. The funneling of passengers through a limited number of doors can significantly increase dwell times. The use of all doors for boarding and alighting can significantly reduce dwell times at high volume stations.

“Trainlined” doors allow all doors to be opened and closed by a single operator in the same manner as on rapid transit systems. Some MBTA commuter rail coaches do have trainlined doors, but without ubiquity they cannot be used. Passengers must board and alight through doors manned by conductors.

## Use of Faster Equipment

Electrically powered trains can accelerate faster than diesel powered trains. Amtrak currently uses electric locomotives for its service, which would be one option for MBTA service. A second option would be the use of Electric Multiple Units, or EMUs, which are self-powered electric units. This type of equipment can accelerate more quickly than electric locomotive-hauled service. A second benefit of EMUs is that they often have more doors than traditional commuter rail coaches, which also speeds boarding and alighting.

Amtrak Northeast Regional Electric Locomotive



Denver RTD A Line EMUs



While the mainline tracks on the NEC are fortunately already electrified, introducing electric fleet into the MBTA's current diesel service will pose challenges, including but not limited to: training operators and mechanics, electrifying station sidings and layover/maintenance yards, power upgrades on the corridor, and new involvement with catenary maintenance. In Rhode Island, TFG and WJ Stations currently operate on non-electrified sidings, and major capital projects would be necessary to make them accessible for electric service.

A second equipment-related option would be the use of Diesel Multiple Units, or DMUs. These are self-powered diesel units that can also accelerate faster than diesel locomotive hauled service (although not as quickly as electrically powered EMUs). As with EMUs, DMUs also often have more doors than traditional commuter rail coaches. The new TEX Rail line between Dallas-Fort Worth International Airport and Fort Worth uses DMUs.

## TEX Rail Stadler DMU (DFW Airport – Fort Worth)



## Express Service

Most MBTA Providence Line trains stop at most stations between Providence and Boston. The operation of express trains that skip most stops would reduce times by eliminating the deceleration, dwell, and acceleration times associated with the stations that would be skipped. The “808” train which currently departs Providence at 7:13AM is close to express, as it runs directly to Boston from Mansfield.

Inbound to Boston			902	806	842	808
ZONE	STATION	TRAIN #				
Bikes Allowed						
10	Wickford Junction	6	-	5:45	-	6:35
9	TF Green Airport	6	-	6:00	-	6:50
8	Providence (Arr.)	6	-	6:15	-	7:05
8	Providence (Dep.)	6	-	6:23	-	7:13
7	South Attleboro	6	-	6:32	-	7:23
7	Attleboro	6	-	6:42	7:12	7:33
6	Mansfield	6	-	6:54	7:22	7:45
4	Sharon	6	-	7:04	7:33	E X P R E S S  ▼
4	Stoughton	6	6:45	-	-	
3	Canton Center	6	6:53	-	-	
3	Canton Junction	6	6:56	-	7:40	
2	Route 128	6	7:02	7:12	7:45	
1	Hyde Park	6	7:08	-	7:51	
1A	Ruggles	6	-	L 7:26	-	
1A	Back Bay	6	L 7:17	L 7:30	L 8:00	L 8:10
1A	South Station	6	7:23	7:36	8:06	8:16

EXPRESS



## Fare Integration with Amtrak

Amtrak trains are, in effect, express trains, as they only stop at Route 128 and Back Bay Stations between Providence and South Station. Fare integration through cross-honored fares that would allow MBTA passengers to also ride Amtrak trains would be another way to effectively provide express service with more frequency and choices for travelers.

Along the NEC, Amtrak currently has cross-honor agreements with Connecticut’s Shore Line East service, MARC service between Baltimore and Washington, and Virginia Railway Express (VRE). With VRE, travelers already in possession of a multi-ride ticket may purchase a “Step Up” ticket for an additional \$8. This ticket permits access to select Amtrak trains.

### VRE Step Up Ticket

#### Amtrak Step-Up Ticket



- Must be used in conjunction with multi-ride VRE tickets for one-way travel on our [Amtrak Cross-Honor Service](#) trains. Step-Up Tickets are available for \$8.00 at platform TVMs and in bulk from all [VRE vendors](#).
- NO validation required.
- Collected by Amtrak conductor when VRE ticket is checked for validation.
- Expires one year from purchase.
- Transferable; non refundable; only one rider per ticket.
- VRE multi-ride ticket must cover the zones that you are travelling between.
- For additional details on Step Up tickets, check out our [Step-Up page](#).

## Ways to Make Service More Frequent

More passenger rail frequency is warranted between TF Green Airport, Providence, and Boston as concluded by Transit Forward’s market analysis. On weekdays, Providence has 20 round trips with Boston on MBTA, while TF Green has nearly 10. Providence has 9 Saturday round trips and 7 on Sunday. TF Green has no weekend service which is a weakness in its connectivity for airport patrons.

Peak period service from Providence operates every 30 to 45 minutes, while off-peak service only operates 60 to 120 minutes. In many cases, the longer gaps in off-peak service is to provide slots for Amtrak trains. TF Green service experiences multiple off-peak gaps up to four hours in durations.

Amtrak operates an additional 19 round-trips on weekdays, although the service is quite different from MBTA as prices are variable and trains can sell out. When making a last minute purchase, Amtrak tickets can be comparably quite expensive.

While the amount of service to Providence is on the high side of the MBTA system, it is lower than that on many other commuter rail systems. This is especially the case in comparison to many newer systems that have been designed to provide frequent, all day rail service. Most older systems still provide a heavy emphasis on much more frequent service during peak periods than off-peak periods. However, some have or are significantly increasing service levels.

## Service Levels at US Commuter Rail Systems with More Service than the Providence Line

System	Service	Length (mi)	Frequencies (mins)		Round Trips	Weekday Riders <sup>1</sup>
			Peak	Off Peak		
Denver RTD	Denver – DIA (A Line)	23.5	15	15-30	144	18,000
Denver RTD	Wheat Ridge – Denver (G Line)	11.2	15	15-30	132	9,000
Metro North	Stamford, CT - NYC	33.0	5-10	10-30	114	125,000
MARC	Baltimore, MD - DC	40.0	15-30	60	58	24,300
Caltrain	San Francisco - San Jose, CA	46.8	5-20	60	46	65,100
Shore Line East	Old Saybrook - New Haven, CT	32.8	25-45	90-120	36	2,100
TriRail	West Palm Beach - Miami, FL	70.9	20-40	60	25	15,100
SEPTA	Wilmington, DE - Philadelphia	26.8	25-50	60-120	21	9,700
MBTA	Providence, RI - Boston, MA	43.6	30-45	60-120	20	13,000

Four ways to provide more frequent service between RI and Boston, or the equivalent thereof, include:

1. Additional MBTA service
2. Additional Amtrak service
3. Enable passengers to ride Amtrak Northeast Regional trains with an MBTA fare product, creating a “virtual” increase in frequency (cross-honor system)
4. Amtrak Stop at TF Green Airport

Yet as described in sections above, there are significant capacity constraints on the NEC, particularly related to track and terminal facilities. Any improvements to frequency will need to work within or address these limitations.

## Additional MBTA Service

### MBTA Rail Vision Alternatives

MassDOT is currently examining a wide range of commuter rail service improvements as part of its MBTA Rail Vision project, with improvements aimed at providing more service and faster service. Rather than examining improvements on a line-by-line basis, it is taking a more systemwide approach, with similar improvements on all lines. To date, the project has defined seven alternatives, the major elements of which include:

- Improved service to Urban Core stations within approximately 15 miles of Boston
- Improved service to Key Stations. On the Providence Line, these would be Back Bay, Ruggles, Route 128, Mansfield, and Providence
- More service overall
- High levels of service to Key Stations
- Electrified service with EMUs or the use of DMUs

<sup>1</sup> Ridership numbers are for various years ranging from 2016 to 2018.

	1 Optimize Current System	2 Regional Rail to Key Stations (Diesel, PVD=Electric)	3 Urban Rail (Diesel)	4 Urban Rail (Electric)	5 Regional Rail to Key Stations (Electric)	6 Full Transformation	7 Hybrid System
Service Frequencies (mins)							
Peak							
Key Stations	30	15	15	30	30	15	30
Other Stations	30	30	30	30	30	15	30
Off-Peak							
Key Stations	60	15	15	60	60	15	60
Other Stations	60	60	60	60	60	30	60

A majority of the alternatives focus heavily on providing more service – up to every 15 minutes all day to and from key stations such as Providence. At this point, all alternatives are being examined at a planning level, and there have not yet been any detailed discussions about any unique approaches to Providence Line service other than what is described in Alternative 2.

## Other Approaches

It would also be possible to implement Providence Line specific improvements that vary from the Rail Vision alternatives. At present, there are gaps as long as two hours between midday MBTA trains. Some of these gaps could be filled or partially filled by operating more Providence Line trains. However, not all could be filled because Amtrak has slots reserved for short-term future expansion. The greatest potential for this approach would be during peak shoulder and off-peak periods. These infill trains could run local or express service. It should be noted, however, that existing off-peak trains garner relatively small ridership as compared to peak periods. It's likely that it would be unnecessary to utilize the typical 8-car consist for this service.

The MBTA only serves Providence within Rhode Island on weekends. There is demand at TF Green, primarily by airport patrons, and any strategy for enhanced frequency should consider this.

## Additional Amtrak Service

A number of states pay Amtrak to provide service on their behalf. In New England, Connecticut funds Amtrak service that operates via Hartford and Vermont funds Amtrak's Vermonter trains. In a similar manner, Rhode Island could pay Amtrak to run additional service between Rhode Island and Boston. Additionally Amtrak service would need to be coordinated with agency plans for an expanded Acela schedule.

## Fare Integration with Amtrak (cross-honor)

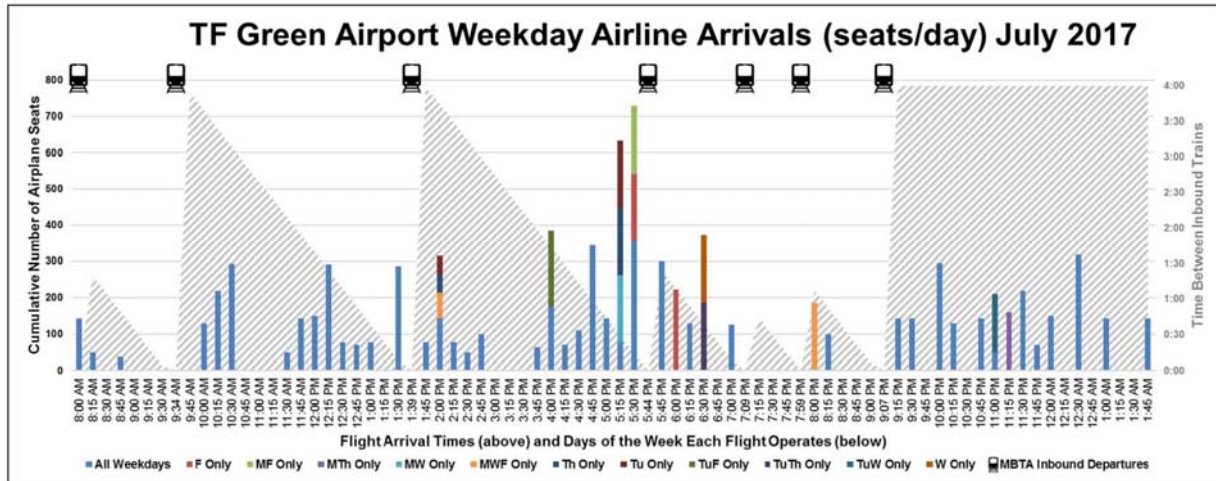
As described previously, a mechanism that enables a rider using an MBTA fare product to board an Amtrak trains would effectively expand the MBTA service with additional express trips. To the user,

this would increase frequency with faster service without expending funds on large-scale capacity projects.

## Amtrak Stop at TF Green Airport

The State of Rhode Island has long considered modifying the existing MBTA station at TF Green Airport to accommodate electric, intercity service. Phase II conceptual plans were included in the original design, and station elements were built in a way to facilitate the eventual transition. This concept was most recently studied in a 2017 report jointly prepared by RIDOT, Amtrak, and the Federal Railroad Administration (FRA). The *Feasibility Study for Intercity Rail Service to T.F. Green Airport* included an alternative for an Amtrak Regional stop at the station in Scenario 4. RIDOT has since advanced this scenario into a more detailed conceptual design.

As depicted in the graphic below, hundreds of airline passengers arrive at TF Green Airport daily with multi-hour waits until the next inbound MBTA departs. Additionally, the hundreds of riders landing after 9:12 PM have no one-seat option to Boston until the following day.



## Constraints to Providing More Faster and More Frequent Service between Rhode Island and Boston

There are a number of constraints to providing more frequent service between Rhode Island and Boston. These include:

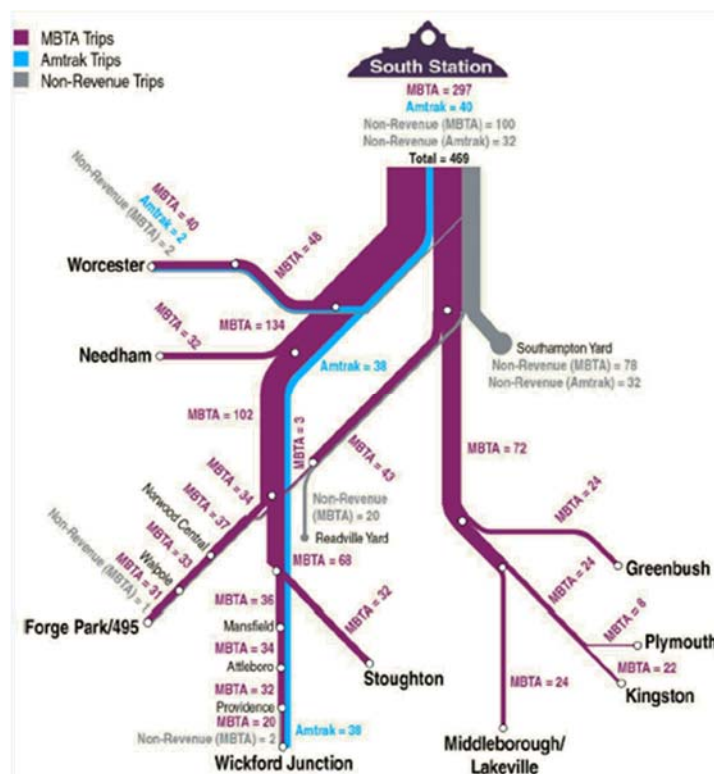
- **Amtrak trains are significantly faster than MBTA trains.** Although the schedules of individual trains vary, MBTA trains take approximately 70 minutes to travel between Providence and Boston, Amtrak Northeast Regional trains take 45-50 minutes, and Acela trains take 35-40 minutes. To prevent Amtrak trains from being delayed by MBTA trains, there must be 30-plus minute gaps between MBTA and Acela trains and 20-plus minute gaps between MBTA and Northeast Regional trains.
- **Amtrak owns the right-of-way in Rhode Island and Providence Station** and has **operating rights that reserve certain time slots** for its existing services and future service increases.
- **South Station is capacity constrained** and additional Providence Line arrivals and departures would need to fit within the MBTA's overall southside schedule there. The Massachusetts



Department of Transportation (MassDOT) is considering an expansion of South Station that could add an additional seven tracks. Although this expansion is not imminent, it could provide expanded capacity in the future. Currently, South Station is used by the following MBTA lines: Worcester, Needham, Franklin, Providence, Stoughton, and Old Colony. In the near future it will also need to accommodate South Coast Rail.

- North of Canton Junction, **the Northeast Corridor right-of-way is also used by up to four other MBTA commuter rail lines**, and additional Providence Line trains would also need to fit within those schedules.

These constraints would not prevent the provision of more service, but would need to be considered as part of expansion plans. Already, MBTA is planning to eventually add service to the NEC through full-build South Coast Rail.



Source: MBTA (for demonstration only, trip calculations outdated)

## Key Considerations

At this point, the alternatives and proposals for improvements to the Providence Line are either general or within the context of much larger improvements to the MBTA's overall commuter rail system; none are specific to the Providence Line or opportunities for Rhode Island. The following are key considerations for the improvement of Rhode Island – Boston rail service:

- **Rhode Island service is a small component of the MBTA's overall commuter rail system.** As such, any improvements that go beyond those that the MBTA will make to the overall system will require financial commitments from Rhode Island and cost sharing agreements that split costs in a mutually agreeable manner. For example, all of the stations with low level

platforms are in Massachusetts, and the raising of these platforms to provide level boarding would benefit both Massachusetts and Rhode Island rail riders.

- **Amtrak owns the right-of-way in Rhode Island and Providence Station**, and has operating rights that reserve certain time slots its existing services and future service increases. Providence Line improvements must be made within those constraints.
- The Providence Line operates on Amtrak’s Northeast Corridor, which is already electrified. However, **power upgrades would be needed to accommodate electrified Providence Line service**. In addition, to provide electrified service to Wickford Junction, the FRIP track, which is not currently electrified, would need to be electrified.
- Unless the MBTA shifts to electrified service systemwide on some other lines, **electrified service on the Providence Line would introduce a new equipment type to the MBTA system**. The MBTA is not currently staffed or experienced in maintaining electric equipment.

Within this context and within these constraints, there are significant opportunities to provide faster service between Rhode Island and Boston

## Intrastate RI Passenger Rail Service

Intrastate service refers to a new passenger rail service that would operate entirely within the borders of Rhode Island. This could operate as complementary service to the existing MBTA, or it could replace service south of Providence and aim to provide cross-platform transfers with the MBTA at Providence.

Opportunities for an intrastate service naturally begin by considering existing rail corridors. The NEC is currently the only corridor with active passenger service. Active MBTA stations include Providence, TF Green Airport, and Wickford Junction. Active Amtrak stations include Providence, Kingston Station (South Kingstown), and Westerly Station. Additional corridors worthy of consideration are the Providence & Worcester Mainline – an active freight track stretching between Central Falls and Woonsocket (and further to Worcester), and service to Quonset – a major (and growing) employment hub with an active freight line connection to the NEC. An alternative to providing service directly into Quonset could be to construct a West Davisville station adjacent to the NEC with a last-mile connection to employers around the business park.

The market for transit service originating and ending within Rhode Island was analyzed as a part of Transit Forward’s State of the System. Irrespective of mode, the analysis shows a need for improved transit connectivity between Pawtucket and Warwick. Further analysis will determine whether commuter rail service is an appropriate mode to meet the demand.

## Examples of Intrastate Service Anchored by Small Urban Areas

Most commuter rail lines are anchored at at least one end by a major metropolitan area. Examples include the Providence Line to Boston, Metro-North and the Long Island Railroad to New York City, Virginia Railway Express to Washington, DC and Caltrain to San Francisco. However, some commuter rail services exclusively serve smaller markets, including:

- Shoreline East between New London and New Haven, CT
- Hartford Line between Springfield, MA and New Haven, CT via Hartford
- A-Train between Denton, TX and the northern end of DART's Green Line with connecting service to Dallas
- SMART between Santa Rosa and San Rafael, CA Capital Metro's Red Line between Leander, TX and downtown Austin provides commuter rail service in a medium-sized urban area.

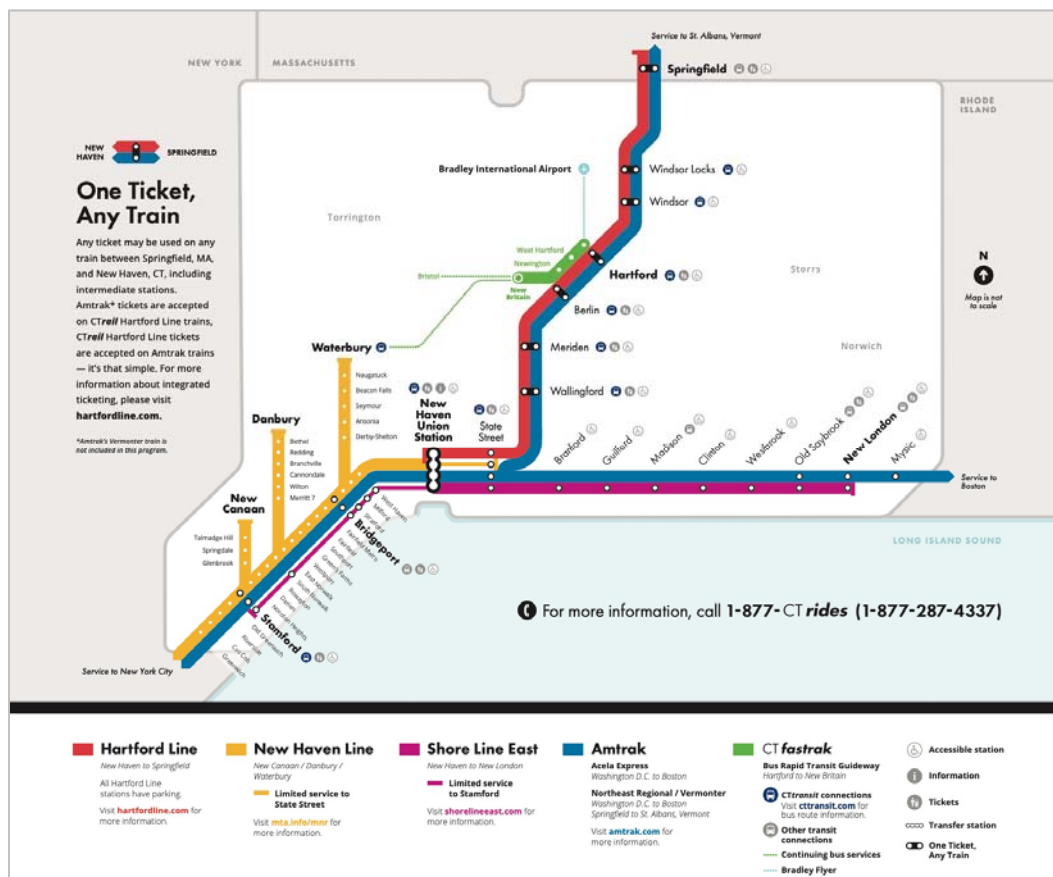
The two Connecticut examples are outlined in greater detail below.

## Shoreline East

Shoreline East service operates between New London and New Haven, CT, where connections can be made to Metro North service to New York City. Service operates seven days a week. On weekdays there are 18 eastbound trips and 22 westbound trips and a combination of local and express trains (and due to a track maintenance program three eastbound trains and five westbound trains are currently being provided by buses). In addition, Shoreline East riders can ride five eastbound Amtrak trains and three westbound trains through a cross honor fare agreement. On weekends there are 10 eastbound trips and nine westbound trips.

Service is operated with diesel push-pull equipment (similar to the Providence Line), although plans are underway to transition to Electric Multiple Units (EMUs). Ridership averages 2,100 passengers on weekdays, or slightly over 50 passengers per one-way trip.

## Shoreline East and Hartford Line Service



## Hartford Line, Springfield – Hartford – New Haven

The Hartford Line, which opened in July 2018, is a joint venture between Connecticut and Massachusetts and operates between Springfield, MA and New Haven, CT via Hartford. On weekdays, there are eight round trips, all eight of which operate between New Haven and Hartford and three of which operate between New Haven and Springfield via Hartford. On weekends, there are six round trips, three of which operate to and from Springfield. There is also a cross honor fare agreement with Amtrak, which provides access to 7.5 round trips on weekdays, six on Saturdays, and seven on Sundays.

As of September, 2018, ridership was averaging nearly 1,900 passengers per weekday, or 120 per one-way trip.

## Previous and Current Intrastate Rail Studies

A large number of intrastate rail services have been studied. Most are described in Rhode Island's 2014 State Rail Plan. The exception is an alternative included in a recent RIDOT study completed in coordination with Amtrak and the Federal Railroad Administration (FRA).

### 2014 Rhode Island State Rail Plan

The Rhode Island State Rail Plan provides a guide for investment freight and passenger rail services. It included a description and discussion of many potential intra-state rail services, but largely recommended additional study before advancing any new rail initiatives. Potential new services considered were:

- **Commuter Rail Extension to Westerly** (Phase II of the South County Commuter Rail). This extension would serve five new stations, including Kingston and Westerly.
- **Blackstone Valley Passenger Rail**. The City of Woonsocket studied the potential for a passenger rail link to connect the City with Boston and Providence. The study recommended focusing on four scenarios:
  1. Franklin Transfer which would extend existing MBTA Forge Park service to Woonsocket
  2. Franklin Direct which would provide a semi-express service from Woonsocket to Boston via Franklin
  3. Via Blackstone which consists of service from Woonsocket to Blackstone with a transfer to MBTA service
  4. Providence via Pawtucket which consists of service from Woonsocket to Pawtucket and transfer to the MBTA for Boston passengers

After the feasibility report was completed, a more detailed look at intrastate service between Woonsocket and the InterLink in Warwick was examined by the Providence Foundation. That service would traverse 25 miles: 11 miles on the P&W line between Woonsocket and Pawtucket and 14 miles on Amtrak's NEC from Pawtucket to Warwick.

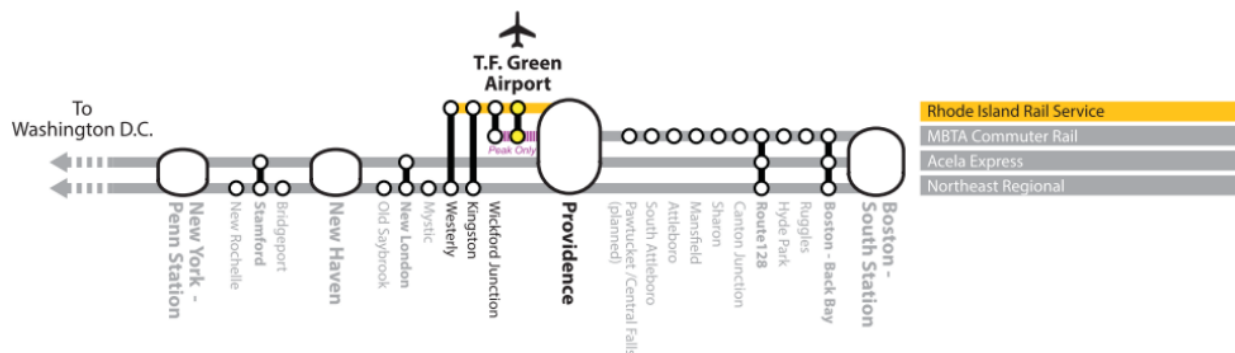
- **Rail Shuttle Service** between Providence, TF Green, and Wickford Junction that would augment existing MBTA service.
- **Aquidneck Island Passenger Rail** that would use the Newport Secondary Rail right-of-way to provide rail service to Newport, Middletown, Portsmouth, and Newport.

- **Additional Rail Corridors** to be continuously be reviewed for transit feasibility are:
  - Worcester MA - Providence
  - Providence-East Providence (including East Side Rail Tunnel)
  - Providence-Pastore Center, Cranston (including use of Pontiac Secondary)

## 2017 Feasibility Study for Intercity Rail Service to T.F. Green Airport

This feasibility studied numerous scenarios for enhanced passenger rail service to the existing MBTA station at TF Green Airport. The study evaluated travel demand, capital and operating costs, revenue projections, and economic impacts. Scenario 2, which had 3 variations, pertained to a new Rhode Island intrastate rail service. Service between Providence and Westerly was evaluated with stops at TF Green, Wickford Junction, and Kingston Station. Schedules were developed that used available time slots on the NEC at the time, along with ridership, revenue, and capital and operating cost projections. Both diesel and electric services were considered. Two variations assumed MBTA service would terminate at Providence, which one assumed peak-hour MBTA trains would continue to service TF Green and Wickford.

**Figure 3.3-4: Variation 2.3 – Rhode Island Rail Service from Westerly to Providence plus rush hour MBTA service to Wickford Junction and T.F. Green Airport**



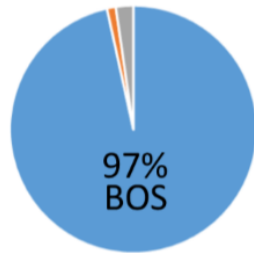
Ultimately, Scenario 4 proposing an Amtrak Regional stop at TF Green was identified for further consideration.

## Feasibility of Establishing Rhode Island Intrastate Rail Service

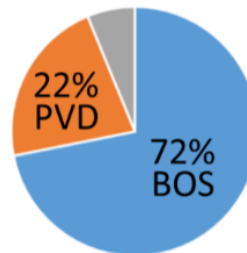
As described above, there have been numerous proposals for the development of intrastate rail services in Rhode Island. However, the market analysis conducted for this study shows that the only realistic market for frequent, all day transit service is between Warwick and Pawtucket/Central Falls (a preferred mode to accommodate this demand has not yet been determined). It also shows that the market for more traditional commuter rail service along the Northeast Corridor does not extend south of Wickford Junction. This commuter rail market is heavily oriented towards Boston, not Providence. If MBTA service was terminated at Providence and ridership were forced to transfer from an intrastate service to MBTA, it may encourage ridership declines.



TF Green Rider Destinations

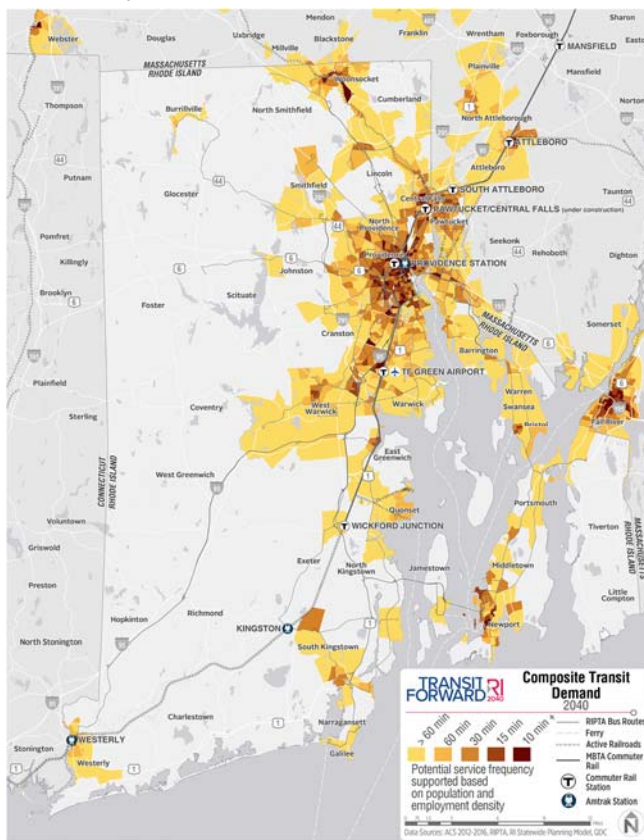


Wickford Junction Rider Destinations

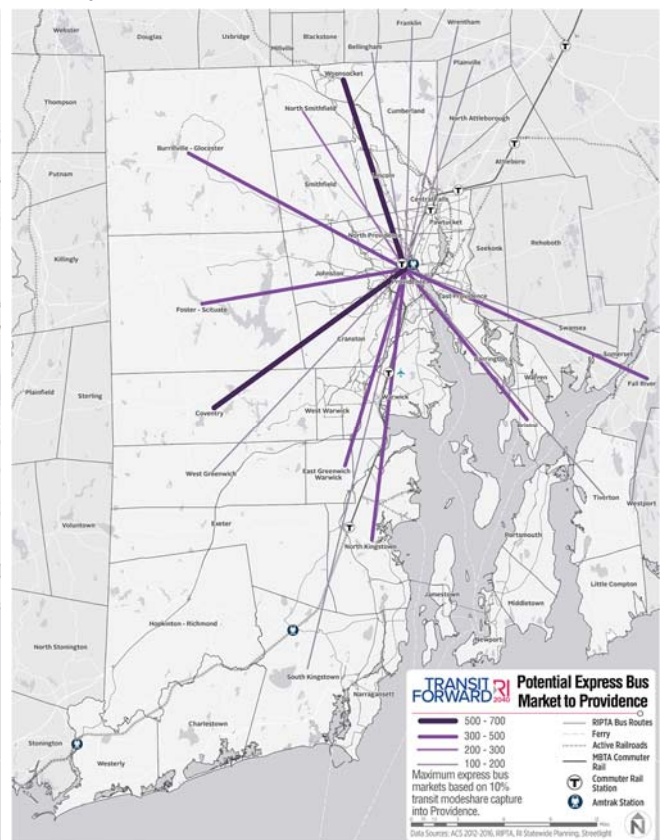


Source: RIDOT Survey, 2016

Underlying Transit Demand  
For All Day Service



For Express Bus Service



## Conclusion: Opportunities for Enhanced RI Passenger Rail

In recent years, many options for improving RI passenger rail have been investigated. While many remain potentially viable over the long term, currently one appears most promising, while another two are worthy of close attention in the near term:

- Cross-honored fares with MBTA and Amtrak: A relatively simple and low-cost way to increase the effective speed and frequency of rail service between Providence and Boston
- MBTA Rail Vision: An opportunity to align RI and MA rail investment efforts so as to benefit residents, workers, and employers at both ends of the Providence-Boston corridor.
- Enhanced in-state transit service between Pawtucket/Central Falls and Warwick: A densely populated, transit-supportive corridor lies between Pawtucket/Central Falls to the north and Warwick (T.F. Green/Community College of RI area) to the south, which is currently underserved. Bus-based alternatives such as rapid bus or bus rapid transit (BRT) could potentially satisfy this market; however, light rail may also be an appropriate mode for this corridor.